

IN THE CLAIMS:

1. (currently amended) A method for operating a base station to wirelessly transmit data communications to a plurality of user terminals on a single wireless carrier, the method comprising:

repeatedly and sequentially wirelessly transmitting time division multiplexed superframes to the plurality of user terminals, wherein each time division multiplexed superframe comprises a plurality of high speed data frames;

wherein each of the high speed data frames carries at least one data communication; and

wherein each of the high speed data frames includes at least one explicit data rate indicator that identifies:

at least one user terminal of the plurality of user terminals for which at least one respective data communication carried by the high speed data frame is intended;

at least one data rate of the at least one respective data communication carried by the high speed data frame; and

at least one relative position of the at least one data communication carried by the high speed data frame.

~~a respective indication of at least one user terminal for which the at least one data communication is intended; and~~

~~a respective indication of at least one data rate of the high speed data frame.~~

2. (original) The method of claim 1, further comprising supporting a plurality of data rates within the high speed data frames of a single superframe.

3. (original) The method of claim 1, further comprising supporting a plurality of coding rates and modulation schemes within the high speed data frames of a single superframe.

4. (currently amended) The method of claim 1, further comprising coding the superframes with a plurality of Walsh codes prior to ~~their~~ transmission.

5. (original) The method of claim 1, further comprising:
coding the data communications of a high speed data frame using a first coding type; and
coding the respective indicator of the high speed data frame using a second coding type
that is different from the first coding type.

6. (original) The method of claim 1, wherein each of the high speed data frames further includes:
a pilot signal; and
a plurality of reverse link power control bits intended for the plurality of user terminals.

7. (original) The method of claim 1, wherein:
a high speed data frame includes both a primary explicit data rate indicator and a secondary explicit data rate indicator;
wherein the primary explicit data rate indicator indicates:
a user terminal of the plurality of user terminals for which a first portion of the high speed data frame is intended; and
a data rate for the first portion of the high speed data frame; and

wherein the secondary explicit data rate indicator indicates a user terminal of the plurality of user terminals for which a second portion of the high speed data frame is intended.

8. (currently amended) A superframe formed within a transmitting wireless device for carrying data communications intended for a plurality of user terminals, the superframe comprising:

a plurality of high speed data frames;

wherein each of the high speed data frames carries at least one data communication; and

wherein each of the high speed data frames includes at least one explicit data rate indicator

that identifies:

at least one user terminal of the plurality of user terminals for which at least one respective data communication carried by the high speed data frame is intended;

at least one data rate of the at least one respective data communication carried by the high speed data frame; and

at least one relative position of the at least one data communication carried by the high speed data frame.

~~a respective indication of at least one user terminal for which the at least one data communication is intended; and~~

~~a respective indication of at least one data rate of the high speed data frame.~~

9. (original) The superframe of claim 8, wherein each superframe supports a plurality of data rates.

10. (original) The superframe of claim 8, wherein each superframe supports a plurality of coding rates and modulation schemes.

11. (original) The superframe of claim 8, wherein the superframe is coded with a plurality of Walsh codes prior to its transmission.

12. (original) The superframe of claim 8, wherein:
the data communications of a high speed data frame are coded using a first coding type;
and
the respective indicator of the high speed data frame are coded using a second coding type that is different than the first coding type.

13. (original) The superframe of claim 8, wherein each of the high speed data frames of the superframe further includes:
a pilot signal; and
a plurality of reverse link power control bits intended for the plurality of user terminals.

14. (original) The superframe of claim 8, wherein:
a high speed data frame of the superframe includes both a primary explicit data rate indicator and a secondary explicit data rate indicator;
wherein the primary explicit data rate indicator indicates:
a user terminal of the plurality of user terminals for which a first portion of the high speed data frame is intended; and
a data rate for the first portion of the high speed data frame; and

wherein the secondary explicit data rate indicator indicates a user terminal of the plurality of user terminals for which a second portion of the high speed data frame is intended.

15. (currently amended) A method of operating a user terminal to wirelessly receive
5 data communications on a wireless carrier, the method comprising:

repeatedly and sequentially wirelessly receiving time division multiplexed superframes from a base station, wherein each time division multiplexed superframe comprises a plurality of high speed data frames that are intended for a plurality of user terminals;

for each of the plurality of high speed data frames, receiving at least one explicit data rate
10 indicator that identifies:

at least one user terminal of the plurality of user terminals for which at least one
respective data communication carried by the high speed data frame is intended;

at least one data rate of the at least one respective data communication carried by the
high speed data frame; and

15 at least one relative position of the at least one data communication carried by the
high speed data frame.

~~a respective indication of its contents that includes:~~

~~a respective indication of a user terminal for which the high speed data frame is~~
~~intended; and~~

20 ~~a respective indication of a data rate of the high speed data frame;~~

determining that a particular high speed data frame of the superframe is intended for the user terminal based upon the respective indication;

determining a data rate of the particular high speed data frame based upon the respective indication; and

receiving a data communication contained in the particular high speed data frame.

16. (cancelled)

5 17. (original) The method of claim 15, further comprising decoding at least a portion of the superframe with a plurality of Walsh codes.

18. (previously presented) The method of claim 15, further comprising:
decoding the respective indication contained in a high speed data frame using a first
10 coding type;
determining that the high speed data frame of the superframe is intended for the user terminal after the decoding;
receiving a data communication contained in the high speed data frame; and
decoding the data communications of the high speed data frame using a second coding
15 type that is different from the first coding type.

19. (original) The method of claim 15, further comprising:
receiving a pilot signal contained in the high speed data frame; and
receiving a reverse link power control bit contained in the high speed data frame.

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20. (currently amended) The method of claim 19, further comprising:
determining a channel quality indicator based upon the received pilot signal; and
reporting the channel quality indicator to a ~~transmitting~~ base station.

21. (currently amended) A base station that acts as a transmitter to wirelessly transmit data communications to a plurality of user terminals on a single wireless carrier, the base station comprising:

an antenna;

5 a Radio Frequency unit coupled to the antenna; and

at least one digital processor coupled to the Radio Frequency unit that executes software instructions causing the base station to:

repeatedly and sequentially wirelessly transmit time division multiplexed superframes to the plurality of user terminals, wherein each time division multiplexed superframe comprises a
10 plurality of high speed data frames;

wherein each of the high speed data frames carries at least one data communication; and

wherein each of the high speed data frames includes at least one explicit data rate indicator that identifies:

at least one user terminal of the plurality of user terminals for which at least one
15 respective data communication carried by the high speed data frame is intended;

at least one data rate of the at least one respective data communication carried by the
high speed data frame; and

at least one relative position of the at least one data communication carried by the
high speed data frame.

20 ~~a respective indication of at least one user terminal for which the at least one data communication is intended; and~~

~~a respective indication of at least one data rate of the high speed data frame.~~

22. (currently amended) A user terminal that acts as a wireless receiver to wirelessly receive data communications on a wireless carrier, the user terminal comprising:

an antenna;

a Radio Frequency unit coupled to the antenna; and

5 a digital processor coupled to the Radio Frequency unit that executes software instructions causing the user terminal to:

repeatedly and sequentially wirelessly receive time division multiplexed superframes from a base station, wherein each time division multiplexed superframe comprises a plurality of high speed data frames that are intended for a plurality of user terminals;

10 for each of the plurality of high speed data frames, receive a respective indication of its contents that includes at least one explicit data rate indicator that identifies:

at least one user terminal of the plurality of user terminals for which at least one respective data communication carried by the high speed data frame is intended;

15 at least one data rate of the at least one respective data communication carried by the high speed data frame; and

at least one relative position of the at least one data communication carried by the high speed data frame.

~~a respective indication of a user terminal for which the high speed data frame is intended; and~~

20 ~~a respective indication of a data rate of the high speed data frame;~~

for each of the plurality of high speed data frames, determine whether the high speed data frame is intended for the user terminal;

determine that a particular high speed data frame of the superframe is intended for the user terminal; and

receive a data communication contained in the particular high speed data frame.

23. (currently amended) A plurality of software instructions stored on a computer readable medium that, upon execution by a computer processor of a base station, cause the base station to wirelessly transmit data communications to a plurality of user terminals on a single wireless carrier, the plurality of software instructions comprising:

a set of instructions executed by the base station that cause the base station to repeatedly and sequentially wirelessly transmit time division multiplexed superframes to the plurality of user terminals, wherein each time division multiplexed superframe comprises a plurality of high speed data frames;

wherein each of the high speed data frames carries at least one data communication; and wherein each of the high speed data frames includes at least one explicit data rate indicator that identifies:

at least one user terminal of the plurality of user terminals for which at least one respective data communication carried by the high speed data frame is intended;

at least one data rate of the at least one respective data communication carried by the high speed data frame; and

at least one relative position of the at least one data communication carried by the high speed data frame.

~~a respective indication of at least one user terminal for which the at least one data communication is intended; and~~

~~a respective indication of at least one data rate of the high speed data frame.~~

24. (previously presented) A plurality of software instructions stored on a computer readable medium that, upon execution by a computer processor of a user terminal, cause the user terminal to wirelessly data communications on a wireless carrier, the plurality of software instructions comprising:

5 a set of instructions executed by the user terminal that cause the user terminal to repeatedly and sequentially wirelessly receive time division multiplexed superframes from a base station, wherein each time division multiplexed superframe comprises a plurality of high speed data frames that are intended for a plurality of user terminals;

a set of instructions executed by the user terminal that cause the user terminal, for each of
10 the plurality of high speed data frames, receive a respective indication of its contents that includes:

a respective indication of a user terminal for which the high speed data frame is intended; and

a respective indication of a data rate of the high speed data frame;

a set of instructions executed by the user terminal that cause the user terminal to
15 determine that a particular high speed data frame of the superframe is intended for the user terminal;

a set of instructions executed by the user terminal that cause the user terminal to determine a data rate of the particular high speed data frame of the superframe based upon the respective indication; and

a set of instructions executed by the user terminal that cause the user terminal receive a
20 data communication contained in the particular high speed data frame.